

PATENT COOPERATION TREATY PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 12333170/EJH/GC	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> FOR FURTHER ACTION </div> <div style="width: 55%;"> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. </div> </div>
International application No. PCT/AU03/01212	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> International filing date (<i>day/month/year</i>) 16 September 2003 </div> <div style="width: 55%;"> (Earliest) Priority Date (<i>day/month/year</i>) 16 September 2002 </div> </div>
Applicant THE WALTER AND ELIZA HALL INSTITUTE OF MEDICAL RESEARCH et al	

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **4** sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
 - a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
 - b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
2. ☐ Certain claims were found unsearchable (See Box I).
3. ☐ Unity of invention is lacking (See Box II).
4. With regard to the title,

☒ the text is approved as submitted by the applicant.
☐ the text has been established by this Authority to read as follows:
5. With regard to the abstract,

☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.
☐ because the applicant failed to suggest a figure
☐ because this figure better characterizes the invention

☒ None of the figures

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01212

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. 7: C12N 5/08, 5/10; A61K 48/000, 35/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

SEE ELECTRONIC DATABASES BELOW

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SEE ELECTRONIC DATABASES BELOW

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPIDS MedLine CA: hem(at)opoietic stem cells, autoimmunity, tolerance, auto/self antigen

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	Steptoc RJ et al. Transfer of hematopoietic stem cells encoding autoantigen prevents autoimmune diabetes. J Clin Invest, 2003. 111(9): 1357-63	All
X, P	Alderuccio Frank; Murphy Kim; Toh Ban Hock. Stem cells engineered to express self-antigen to treat autoimmunity. Trends Immunol, (2003 Apr) 24(4) 176-80.	All
X	Kawahata K et al. Peripheral tolerance to a nuclear autoantigen: dendritic cells expressing a nuclear autoantigen lead to persistent anergic state of CD4 ⁺ autoreactive T cells after proliferation. J Immunol, 2002. 168: 1103-1112.	1-9,13-20, 25-31,36-44
Y		10-12, 21-24, 32-34.



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

8 October 2003

Date of mailing of the international search report

31 OCT 2003

Name and mailing address of the ISA/AU

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01212

C (Continuation).

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01/25398 A2 (BIOTRANSPLANT INCORPORATED) 12 April 2001	All
Y	Peters, T. R.; Bodine, D. M.; McDonagh, K. T.; Lovett-Racke, A.; McFarland, H. F.; McFarlin, D. E.; Nienhuis, A. W.; Racke, M. K.. Retrovirus mediated gene transfer of the self antigen MBP into the bone marrow of mice alters resistance to experimental autoimmune encephalomyelitis. Journal of Neuroimmunology (2000), 103(1), 51-62	All
Y	Steinman RM et al. Avoiding horror autotoxicus: The importance of dendritic cells in peripheral T cell tolerance. Proc Nat Acad Sci USA, Jan 2002. 99(1): 351-59.	All
A	Burt RK et al. Induction of tolerance in autoimmune diseases by hematopoietic stem cell transplantation: getting closer to a cure. Blood, Feb 2002. 99(3): 768-84.	
A	Burt Richard K; Oyama Yu; Traynor Ann; Kenyon Norma S. Hematopoietic stem cell therapy for type 1 diabetes: induction of tolerance and islet cell neogenesis. Autoimmun Rev, (2002 May) 1 (3) 133-8.	
A	Wu Tao; Levay-Young Brett; Heuss Neal; Sozen Hakan; Kirchhof Nicole; Sutherland David E R; Hering Bernhard; Guo Zhiguang. Inducing tolerance to MHC-matched allogeneic islet grafts in diabetic NOD mice by simultaneous islet and bone marrow transplantation under nonirradiative and nonmyeloablative conditioning therapy. Transplantation, (2002 Jul 15) 74 (1) 22-7.	

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU03/01212

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member
WO 01/25398 A2	CA 2385750 A1 AU 77406/00 A
END OF ANNEX	

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